

**FACT SHEET and STATEMENT OF BASIS  
MANTI CITY CORPORATION  
WASTEWATER TREATMENT FACILITY  
UPDES PERMIT No. UT0026026**

**MINOR MUNICIPAL**

**FACILITY CONTACTS**

Name: Kent Barton  
Position: City Manager  
Address: 50 South Main Street  
Manti, UT 84642  
Phone: (435) 835-2401

**DESCRIPTION OF FACILITY AND BACKGROUND INFORMATION**

The Manti City Wastewater Treatment Facility is located approximately 1 mile north of Manti City, Utah in Sanpete County. According to the most recent census data, the population of Manti is approximately 3,297 with approximately 850 sewer connections. The facility has been upgraded and will continue upgrades during the life of this permit. The design capacity is 0.33 million gallons per day (MGD) with a maximum effluent flow of 0.97 MGD.

The facility has traditionally been a non-discharging lagoon system. However a study completed by Manti City in 2011 indicated that due to increased flows the facility would reach its capacity for total containment in 2016. The facility has previously requested permission from the Division of Water Quality to perform an emergency discharge for land application under its existing Operating Permit No. UTOP00124.

The facility comprises an influent pump station, influent 8-inch Parshall Flume, influent flow meter, grinder, bar screen and three facultative lagoon cells totaling approximately 41.5 acres, (cell #1, 14.1 acres, cell #2, 13.6 acres, cell #3, 13.7 acres) with chlorination for disinfection. The facility plans to reuse the water to irrigate local fields and pastures in the summer and discharge to the San Pitch River in the winter.

**DESCRIPTION OF DISCHARGE**

Outfall Number  
001

Location of Discharge Point:

A 12-inch outfall pipe, located at 39° 17' 10" N latitude and 111°38'05" W longitude, on the southwest side of the lagoon system.

**RECEIVING WATERS AND STREAM CLASSIFICATIONS**

The final discharge is into an unnamed ditch and then the San Pitch River (classified as 2B, 3C, 3D and 4).

- Class 2 B - protected for secondary contact recreation such as boating, wading, or similar uses.
- Class 3C - protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.
- Class 3D - Protected for waterfowl, shore birds, and other water oriented wildlife not included in Classes 3A, 3B or 3C, including the necessary aquatic organisms in their food chain.
- Class 4 - protected for agricultural uses including irrigation of crops and stock watering.

### **BASIS FOR EFFLUENT LIMITATIONS**

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD<sub>5</sub>), *E. coli* and pH are based on current Utah Secondary Treatment Standards, (*Utah Administrative Code [UAC] R317-1-3.2*). The facility has requested the alternative effluent limits for BOD<sub>5</sub> and TSS. Per R317-1-3.2 G, they currently meet all of the requirements and the alternative effluent limits will be incorporated into this permit. The reduction in the percent removal is based on *40 CFR 133.105 Treatment Equivalent to secondary treatment* which allows for a reduction in percent removal for waste stabilization pond facilities.

The total residual chlorine (TRC) and dissolved oxygen (D.O.) limitations are based on water quality considerations of the San Pitch River River (*UAC R317-2*) and were derived in the wasteload analysis (see Addendum). The TRC limit derived in the wasteload incorporates additional modeling data. The wasteload analysis indicates that these limitations should be sufficiently protective of water quality and should meet State water quality standards in the receiving water.

The Utah Water Quality Board adopted a new rule for control of phosphorus discharges into waters of the state that became effective January 1, 2015. The Technology-Based Phosphorus Effluent Limit, or TBPEL Rule, R317-1-3.3 requires that discharges having reasonable potential to discharge phosphorus implement new water quality monitoring requirements by July 1, 2015. The rule requires that these dischargers meet specified nutrient effluent limits by January 1, 2020. As a result of this rule, this facility is being required to monitor for specific nutrients. Under R317-1-3.3, discharging lagoons will be evaluated to determine the current phosphorus load discharged annually. The rule restricts the amount of phosphorus that a lagoon could discharge to 125 percent of the current average annual total phosphorus loading to the receiving stream. This load cap will be identified for this facility and incorporated into the permit by July 1, 2018. Absent sufficient data to calculate a cap for lagoon facilities, the load cap will be estimated by the Director.

The receiving water is listed as impaired for total dissolved solids according to the 2012 303(d) list. A TMDL was completed for the Middle San Pitch River (HUC #16030004) on November 18, 2003. The TMDL identified a critical season of March 1 - September 30 where the loading capacity was exceeded and load limitations apply. As a result, new discharges with a potential to cause or contribute to the existing impairment are not allowed during the critical season. Therefore, the facility will only be allowed to discharge to the San Pitch River during the non-critical season or October 1 through the end of February.

The sampling frequency for Type II reuse for this facility is the same as the sampling frequency for discharges to surface water and is the same as similar facilities within the State.

### **REASONABLE POTENTIAL ANALYSIS**

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These outcomes provide a frame work for what routine monitoring or effluent limitations are required.

Quantitative RP analysis was performed on selenium to determine if there is RP to exceed the applicable water quality standards. RP analysis for selenium indicates it has a reasonable potential to exceed water quality standards. However, this was based on a sample set of two. Based on the permit writer's best professional judgment, selenium will be monitored on a monthly basis. If selenium is measured again at a level that indicates a reasonable potential to cause impairment to the San Pitch River ( $7.0 \mu\text{L}$ ) the permit will be reopened and a selenium limit will be included. Also due to the lack of information available, annual metals monitoring will be required. The facility is not expected to discharge to the San Pitch River during the initial 5 year permit cycle and is expected to only utilize the land disposal portion of the permit during this time.

Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge effluent from Outfall 001. This discharge will be limited to October 1 to February 28 of each year. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations and Sampling Frequency a/					
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum	Sample Frequency	Sample Type
Flow, MGD	NA	NA	NA	0.97	Continuous	Recorder
BOD <sub>5</sub> , mg/L	45	65	NA	NA	Weekly	Grab
BOD <sub>5</sub> Min. % Removal	65	NA	NA	NA	Weekly	Grab
TSS, mg/L	45	65	NA	NA	Weekly	Grab
TSS Min. % Removal	65	NA	NA	NA	Weekly	Grab
<i>E. coli</i> , No./100mL	126	157	NA	NA	Weekly	Grab
TDS, Effluent, mg/l	1476	NA	NA	NA	Weekly	Grab
TRC, mg/L	NA	NA	NA	0.019	Daily	Grab
DO, mg/L	NA	NA	5.0	NA	Weekly	Grab
pH, Standard Units	NA	NA	6.5	9.0	Weekly	Grab
Total Phosphorus, Influent mg/L b/	NA	NA	NA	NA	Monthly	Composite
Total Phosphorus, Effluent mg/L b/	NA	NA	NA	NA	Monthly	Composite
Total Kjeldahl Nitrogen, Influent mg/L b/	NA	NA	NA	NA	Monthly	Composite
Total Kjeldahl Nitrogen, Effluent mg/L b/	NA	NA	NA	NA	Monthly	Composite
Orthophosphate, mg/L	NA	NA	NA	NA	Monthly	Composite
Ammonia, mg/L	NA	NA	NA	2.8	Weekly	Composite
Nitrate-Nitrite, mg/L	NA	NA	NA	NA	Monthly	Composite
Selenium, µ/L	NA	NA	NA	NA	Monthly	Grab

a/ See Definitions, Part VI, for definition of terms.

- b/ Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- c/ If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- d/ In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

NA – Not Applicable

Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge effluent for reuse from Outfall 001R. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Type II Reuse Effluent Limitations and Sampling Frequency a/ b/					
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum	Sample Frequency	Sample Type
Flow, MGD c/	NA	NA	NA	NA	Continuous	Recorder
BOD <sub>5</sub> , mg/L	45	65	NA	NA	Monthly	Composite
TSS, mg/L d/	45	65	NA	NA	Monthly	Composite
pH, SU	NA	NA	6.5	9.0	Weekly	Grab
<i>E. coli</i> , No./100mL e/ f/	126	NA	NA	500	Monthly	Grab
Selenium, µg/l	NA	NA	NA	NA	Monthly	Grab

- a/ See Definitions, *Part VIII*, for definition of terms.
- b/ An alternative disposal option or diversion to storage must be available in case quality requirements are not met.
- c/ Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained
- d/ Properly calibrated, continuous monitoring of turbidity may be substituted for the suspended solids testing.
- e/ The facility is required to disinfect to destroy, inactivate or remove pathogenic microorganisms by chemical, physical or biological means. Disinfection may be accomplished by chlorination, ozonation, or other chemical disinfectants, UV radiation. Or other approved processes.
- f/ The facility shall also have the ability to disinfect the effluent effective immediately and lasting the duration of this permit.

**A. Management Practices for Land Application of Treated Effluent**

1. The application of treated effluent to frozen, ice-covered, or snow covered land is prohibited.
2. No person shall apply treated effluent where the slope of the site exceeds 6 percent.
3. The use should not result in a surface water runoff.
4. The use must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
5. Any irrigation with treated effluent must be at least 300 feet from a potable well.
6. For Type II reuse, any irrigation must be at least 300 feet from any potable water well.
7. For Type II reuse, spray irrigation must be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
8. Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable well.
9. Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public.

**STORM WATER REQUIREMENTS**

Wastewater treatment facilities, including lagoon systems, are required to comply with storm water permit requirements if they meet one or both of the following criteria:

1. The facility has an approved pretreatment program as described in *Title 40, Code of Federal Regulations (CFR) Part 403*.
2. The facility has a design flow of 1.0 MGD or greater.

The Manti City lagoon system does not meet either of these criteria; therefore no storm water requirements are included in the permit. A storm water re-opener provision is included in the permit should storm water requirements be needed in the future.

**PRETREATMENT REQUIREMENTS**

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, there are no categorical industries discharging to the treatment facility, industrial discharges comprise less than 1 percent of the flow through the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local

regulations. Pursuant to *Section 307 of the Clean Water Act*, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in *40 CFR 403* and the State Pretreatment Requirements found in *UAC R317-8-8*.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is recommended that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed. It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review.

#### **BIOMONITORING REQUIREMENTS**

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (Biomonitoring)*. Authority to require effluent biomonitoring is provided in *Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3, and Water Quality Standards, UAC R317-2-5 and R317-2-7.2*.

Manti City is a minor municipal facility, discharges less than one (1) MGD, and has no industries contributing to the wastewater system. Based on these considerations, there is minimal reasonable potential for toxicity in Manti City's discharge (per *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control*). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision. This provision allows for modification of the permit, should additional information indicate the presence of toxicity in the discharge.

#### **SEWAGE SLUDGE (BIOSOLIDS) DISPOSAL REQUIREMENTS**

Because the permitted facility is a lagoon system, there is no regular sludge production. Therefore, the requirements of *40 CFR Part 503* do not apply unless or until sludge is removed from the bottom of the lagoon and used or disposed in some way.

**PERMIT DURATION**

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by Lonnie Shull  
Environmental Scientist  
Utah Division of Water Quality  
June 1, 2016  
Revised November 30, 2016

Wasteload Allocation by Dave Wham  
Pretreatment Review by Jennifer Robinson  
TMDL Review by Scott Daly  
Reasonable Potential Review by Ken Hoffman

# Addendum I (Wasteload Allocation)

